

Claims

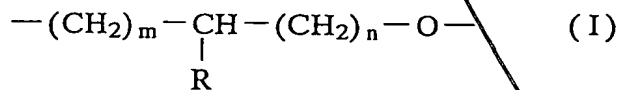
1. A branched polyacetal resin composition, comprising 100 parts by weight of a branched polyacetal copolymer (A) having an oxymethylene group as the main repeating unit and having a branching unit represented by the following formula (I),

and 0.5 to 40 parts by weight of at least one polymer (B) selected from the group consisting of the following polymers (B-1) and (B-2), i.e.,

polymer (B-1): a graft or block copolymer prepared from an olefin polymer (b-1) and at least one vinyl polymer (b-2); and

polymer (B-2): a modified olefin polymer in which an olefin polymer (b-3) is modified with at least one compound selected from the group consisting of an unsaturated carboxylic acid, an unsaturated carboxylic acid anhydride and derivatives thereof,

and/or 0.1 to 5 parts by weight of a lubricant (C).



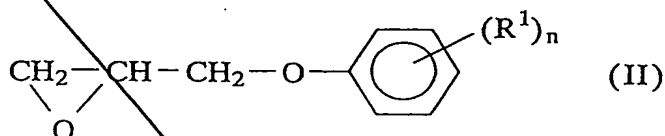
wherein m and n each is an integer of 0 to 5; the sum of m + n is 1 to 5; and R is a monovalent organic group having a molecular weight of 40 to 1000.

2. The composition according to claim 1, wherein the branched

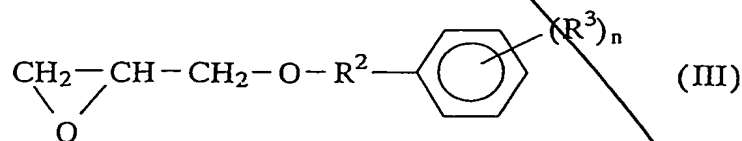
polyacetal copolymer (A) is prepared by a copolymerization of 100 parts by weight of trioxane (a-1), 0.001 to 10 parts by weight of a monofunctional glycidyl compound (a-2) and 0 to 20 parts by weight of a cyclic ether compound (a-3) which is copolymerizable with trioxane.

3. The composition according to claim 2, wherein the monofunctional glycidyl compound (a-2) is selected from the group consisting of a glycidyl ether compound and a glycidyl ester compound, each having a molecular weight of 100 to 1000.

4. The composition according to claim 2 or 3, wherein the monofunctional glycidyl compound (a-2) is selected from the glycidyl ether compounds represented by the following formulae (II), (III) and (IV):

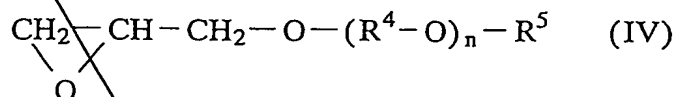


wherein R^1 is a C_{1-12} alkyl group, a substituted alkyl group, an alkoxy group, an aryl group, a substituted aryl group or halogen; and n is an integer of 0 to 5 and, when n is 2 or more, the R^1 's may be the same or different:



wherein R^2 is a C_{1-30} alkylene group, a substituted alkylene

group or a polyalkylene oxide glycol residue; R³ is a C₁₋₁₂ alkyl group, a substituted alkyl group, an alkoxy group, an aryl group, a substituted aryl group or halogen; and n is an integer of 0 to 5 and, when n is 2 or more, the R³'s may be the same or different:



wherein R⁴ is a C₁₋₃₀ alkylene group; n is an integer of 0 to 20; and R⁵ is a C₁₋₃₀ alkyl group, a C₂₋₂₀ alkenyl group or an alkynyl group.

5. The composition according to any of claims 2 to 4, wherein the branched polyacetal copolymer (A) indispensably contains the cyclic ether compound (a-3) copolymerizable with trioxane and is a copolymerized product of 0.1 to 20 parts by weight of the compound (a-3) to 100 parts by weight of trioxane.

6. The composition according to any of claims 2 to 5, wherein the cyclic ether compound (a-3) which is copolymerizable with trioxane is selected from the group consisting of ethylene oxide, 1,3-dioxolan, diethylene glycol formal and 1,4-butanediol formal.

7. The composition according to any of claims 1 to 6, wherein the polymer (B-1) is prepared from at least one olefin polymer (b-1), which are selected from the group consisting of polyethylene, polypropylene and an ethylene-propylene copolymer, and at least one vinyl polymer (b-2), which are

selected from the group consisting of methyl polymethacrylate, an acrylonitrilestyrene copolymer and styrene.

8. The composition according to any of claims 1 to 6, wherein the polymer (B-2) is a modified olefin polymer where 100 parts by weight of the olefin polymer (b-3) is modified with 0.1 to 20 parts by weight of maleic anhydride.

9. The composition according to any of claims 1 to 6, wherein the polymer (B-2) is a modified olefin polymer where at least one olefin polymer (b-3), which are selected from the group consisting of polyethylene, polypropylene, an ethylene-propylene copolymer, an ethylene-ethyl acrylate copolymer and an ethylene-methyl acrylate copolymer, is modified.

10. The composition according to any of claims 1 to 9, wherein the lubricant (C) is at least one compound selected from the group consisting of silicone, an α -olefin oligomer, paraffin, a substituted diphenyl ether, derivatives of fatty acid having 10 or more carbons and derivatives of aliphatic alcohol having 10 or more carbons.

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